BCI SURFACE TECHNOLOGIES
BULK CHEMICALS INCORPORATED
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Safety Data Sheet
acc. to OSHA HCS

Printing date 11/22/2016 Reviewed on 11/22/2016

1 Identification

· **Product identifier**

· **Trade name: Bulk Bond® 315 RP**

· **Article number:** B315RP
· **Application of the substance / the mixture** Metal surface treatment

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Bulk Chemicals Inc.
1074 Stinson Drive
READING, PA 19605
USA

· **Information department:**
Product safety department
info@bulkchemicals.us
· **Emergency telephone number:** CHEMTREC 1-800-424-9300, outside US +1-703-527-3887

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS06 Skull and crossbones

Acute Tox. 3 H311 Toxic in contact with skin.

GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Muta. 2 H341 Suspected of causing genetic defects.
Carc. 1A H350 May cause cancer.
Repr. 1B H360 May damage fertility or the unborn child.
STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

GHS05 Corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.

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GHS07

Acute Tox. 4 H332 Harmful if inhaled.
Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS05 GHS06 GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**
phosphoric acid
hydrofluoric acid
nickel dinitrate
· **Hazard statements**
Toxic in contact with skin.
Harmful if inhaled.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
· **Precautionary statements**
Do not breathe dusts or mists.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

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· **HMIS-ratings (scale 0 - 4)**

*Health = *3*
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
7664-38-2	phosphoric acid	25-50%
7664-39-3	hydrofluoric acid	1-≤2.5%
13138-45-9	nickel dinitrate	1-≤2.5%

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing apparatus only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:**
Check for and remove any contact lenses
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Do not induce vomiting; immediately call for medical help.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** Full firefighting gear and SCBA

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Avoid heat
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

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· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

7664-38-2 phosphoric acid	
PEL	Long-term value: 1 mg/m³
REL	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³
TLV	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³

7664-39-3 hydrofluoric acid	
PEL	Long-term value: 3 ppm as F
REL	Long-term value: 2.5 mg/m³, 3 ppm Ceiling limit value: 5* mg/m³, 6* ppm *15-min, as F
TLV	Long-term value: 0.41 mg/m³, 0.5 ppm Ceiling limit value: 1.64 mg/m³, 2 ppm as F; Skin, BEI

13138-45-9 nickel dinitrate	
PEL	Long-term value: 1 mg/m³ as Ni
REL	Long-term value: 0.015 mg/m³ as Ni; See Pocket Guide App. A
TLV	Long-term value: 0.1 mg/m³ as Ni; inhalable fraction

· **Ingredients with biological limit values:**

7664-39-3 hydrofluoric acid	
BEI	3 mg/g creatinine urine prior to shift Fluorides (background, nonspecific) 10 mg/g creatinine urine end of shift Fluorides (background, nonspecific)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.

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Avoid contact with the eyes and skin.

· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

Faceshield

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Color:	Light green
· **Odor:**	Acrid
· **Odor threshold:**	Not determined.
· **pH-value at 15.6 °C (60 °F):**	< 1
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	101 °C (214 °F)
· **Flash point:**	Not applicable.
· **Flammability (solid, gaseous):**	Not applicable.

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· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure at 20 °C (68 °F):**	23 hPa (17 mm Hg)
· **Density at 20 °C (68 °F):**	1.46 g/cm³ (12.184 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	0.0 %
Water:	52.1 %
VOC content:	0.0 g/l / 0.00 lb/gl
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
1314-13-2 zinc oxide		
Oral	LD50	> 5000 mg/kg (rat)
7664-39-3 hydrofluoric acid		
Oral	LD50	1276 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Caustic effect on skin and mucous membranes.
· **on the eye:** Strong caustic effect.
· **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
Harmful
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
Carcinogenic if inhaled.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
13138-45-9	nickel dinitrate	1

· **NTP (National Toxicology Program)**		
13138-45-9	nickel dinitrate	K

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Toxic for fish
· **Additional ecological information:**
· **General notes:**
Must not reach bodies of water or drainage ditch undiluted or unneutralized.

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Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

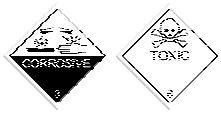
· **Waste treatment methods**
· **Recommendation:**
Dispose of waste in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

Dispose of containers in a licensed facility. Recommend crushing, puncturing or othe rmeans to prevent unauthorized use of used containers.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN2922
· **UN proper shipping name**	
· **DOT**	Corrosive liquids, toxic, n.o.s. (Hydrogen fluoride, Phosphoric acid solution)
· **ADR**	2922 Corrosive liquids, toxic, n.o.s. (Hydrogen fluoride, Phosphoric acid solution), ENVIRONMENTALLY HAZARDOUS
· **IMDG, IATA**	CORROSIVE LIQUID, TOXIC, N.O.S. (HYDROGEN FLUORIDE, PHOSPHORIC ACID, SOLUTION)
· **Transport hazard class(es)**	
· **DOT**	



· **Class**	8 Corrosive substances

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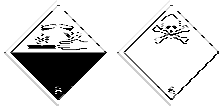
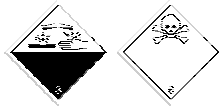
· **Label**	8, 6.1
· **ADR**	
	
· **Class**	8 Corrosive substances
· **Label**	8+6.1
· **IMDG**	
	
· **Class**	8 Corrosive substances
· **Label**	8/6.1
· **IATA**	
	
· **Class**	8 Corrosive substances
· **Label**	8 (6.1)
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **Environmental hazards:**	Product contains environmentally hazardous substances: zinc oxide
· **Marine pollutant:**	No
· **Special marking (ADR):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Corrosive substances
· **Danger code (Kemler):**	86
· **EMS Number:**	F-A,S-B
· **Segregation groups**	Acids
· **Stowage Category**	B
· **Stowage Code**	SW2 Clear of living quarters.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L

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· **ADR**	
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 2922 CORROSIVE LIQUIDS, TOXIC, N.O.S. (HYDROGEN FLUORIDE, PHOSPHORIC ACID SOLUTION), 8 (6.1), II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**

7664-39-3	hydrofluoric acid

· **Section 313 (Specific toxic chemical listings):**

1314-13-2	zinc oxide
7664-39-3	hydrofluoric acid
13138-45-9	nickel dinitrate

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **New Jersey Right to Know**

7664-38-2	phosphoric acid
1314-13-2	zinc oxide
7664-39-3	hydrofluoric acid

· **Pennsylvania Right to Know**

7664-38-2	phosphoric acid
1314-13-2	zinc oxide
7664-39-3	hydrofluoric acid

· **Proposition 65**

· **Chemicals known to cause cancer:**

13138-45-9	nickel dinitrate

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

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· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**		
1314-13-2	zinc oxide	D, I, II

· **TLV (Threshold Limit Value established by ACGIH)**		
13138-45-9	nickel dinitrate	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**	
13138-45-9	nickel dinitrate

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS05 GHS06 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
phosphoric acid
hydrofluoric acid
nickel dinitrate
· **Hazard statements**
Toxic in contact with skin.
Harmful if inhaled.
Causes severe skin burns and eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing genetic defects.
May cause cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.
· **Precautionary statements**
Do not breathe dusts or mists.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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· **Department issuing SDS:**
Environmental,
Safety and Health
· **Contact:** SDS Coordinator
· **Date of preparation / last revision** 11/22/2016 / -
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1A: Carcinogenicity – Category 1A
Repr. 1B: Reproductive toxicity – Category 1B
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1